

5 What is claimed is:

1. A method for the preparation of an polyaromatic carboxylic acid compound and/or salt thereof comprising reacting an aromatic boronic acid with a halo-substituted, aromatic carboxylic acid compound and/or salt thereof.

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2. The method of claim 1 wherein the aromatic boronic acid is R_2 -substituted wherein R_2 is independently alkyl, alkoxy, alkenyl, cycloalkyl, cycloalkenyl, aralkyl, carbonylalkyl, amino, alkylamino, dialkylamino, hydroxyl, hydroxyalkyl, nitro, cyano, isocyanato, carbamyl, amido, alkylamido, dialkylamido, trifluoromethyl or aryloxy.

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3. The method of claim 2 wherein said reaction is conducted in the presence of a catalyst and a base.

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4. The method according to claim 3 wherein said catalyst is an organometallic catalyst compound having the formula QM wherein M is an element selected from the group consisting of palladium, platinum, rhodium, and nickel and Q is an organic ligand.

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5. The method according to claim 4 wherein said organic ligand is selected from the group consisting of triphenylphosphine, tris(2-methoxyphenyl)phosphine, acetate, dibutylamine- C_6H_6 , and n-propyl-Cl.

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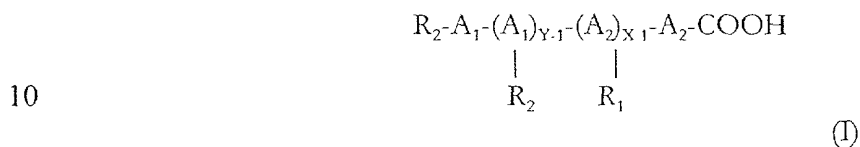
6. The method according to claim 1 wherein said aromatic compound comprises substituted phenyl, biphenyl, triphenyl, naphthyl, phenylnaphthyl, thienyl, furyl, pyrrolyl, pyridyl.

7. The method of claim 1 wherein said halo-substituent is iodo or bromo.

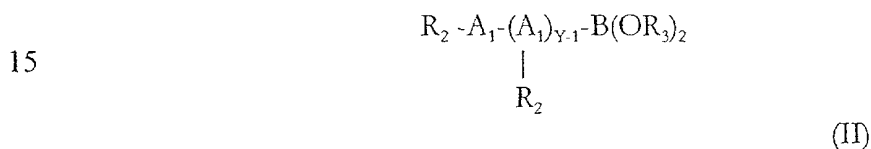
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8. The method according to claim 4 wherein said organo metallic compound is tetrakis(triphenylphosphine)palladium.

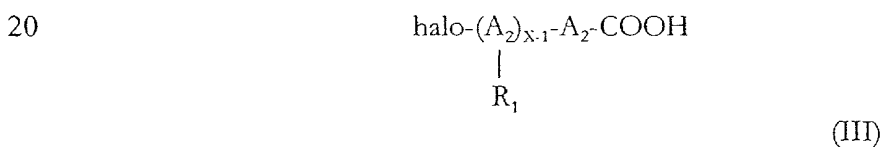
5 9. A method for the preparation of an R_1, R_2 substituted polyaromatic compound of formula I, and/or a salt thereof,



comprising reacting an aromatic boronic acid of formula II



with a halo-substituted aromatic compound of formula III, and/or a salt thereof,



wherein

A_1 and A_2 are each independently phenyl, biphenyl, triphenyl, naphthyl, phenylnaphthyl, pyridyl, pyrrolyl, thienyl, furyl, or pyridyl.

R_1 and R_2 are independently alkyl, alkoxy, alkenyl, cycloalkyl, cycloalkenyl, aralkyl, carbonylalkyl, aryl, amino, alkylamino, dialkylamino, hydroxyl, hydroxyalkyl, nitro, cyano, isocyanato, amido, alkylamido, dialkylamido, trifluoromethyl, or aryloxy;

Y is 1 to about 10;

X is 1 to about 10; and

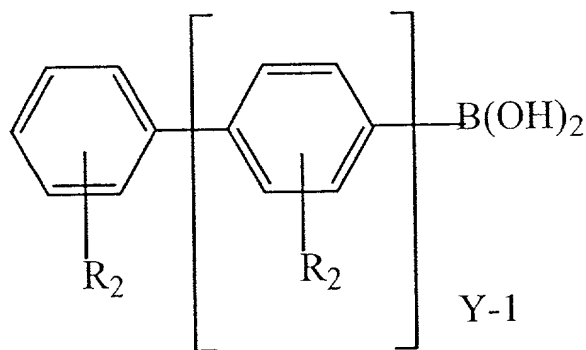
R_2 is independently hydrogen, lower alkyl or together consists of alkylene to form a cyclic boronic acetal.

10. The method of claim 9 where A_1 is a phenyl group and A_2 is a phenyl group.

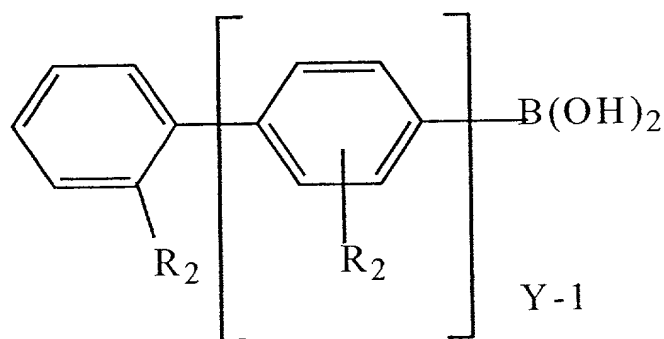
5 11. The method of claim 3 wherein said base is (1) any alkali metal hydroxide carbonate, bicarbonate, phosphate, or alkoxide, or (2) any tertiary organic amine, or (3) mixtures of (1) and (2).

10 12. The method of claim 10 where in R_2 is attached to the phenyl in an ortho, meta, or para position.

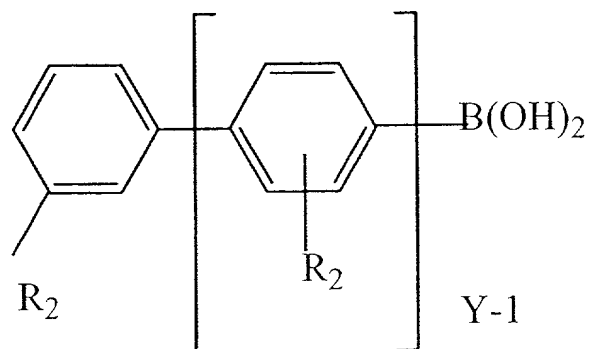
13. The method of claim 9 where in $(R_2-A_1)_Y-B(OH)_2$ is



14. The method of claim 13 wherein $(R_2-A_1)_Y-B(OH)_2$ is

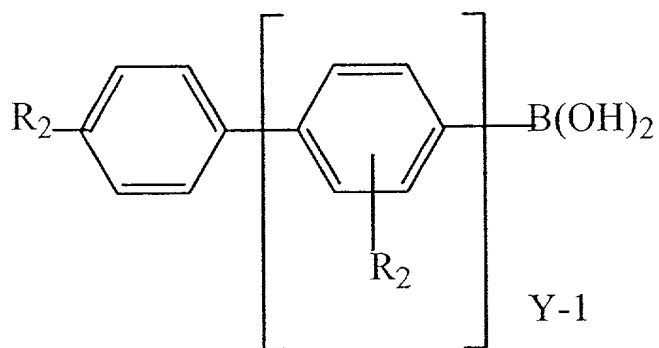


15. The method of claim 13 wherein $(R_2-A_1)_Y-B(OH)_2$ is



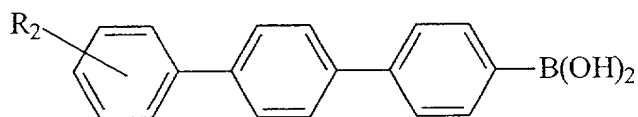
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16. The method of claim 13 wherein $(R_2-A_1)_Y-B(OH)_2$ is

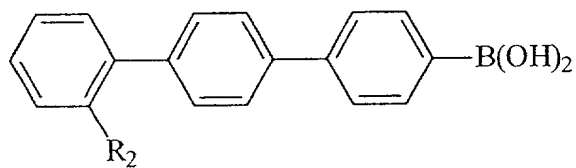


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17. The method of claim 13 wherein $(R_2-A_1)_Y-B(OH)_2$ is

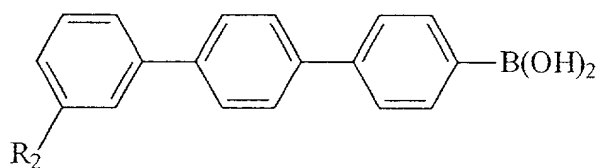


18. The method of claim 14 wherein $(R_2-A_1)_Y-B(OH)_2$ is

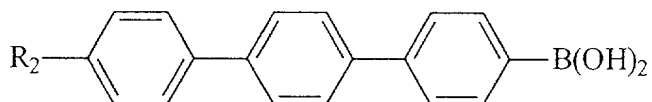


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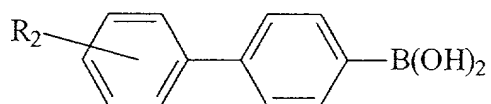
- 5 19. The method of claim 15 wherein $(R_2-A_1)_Y-B(OH)_2$ is



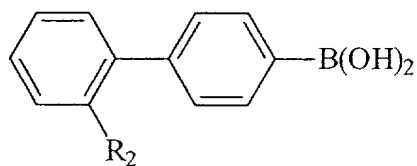
20. The method of claim 16 wherein $(R_2-A_1)_Y-B(OH)_2$ is



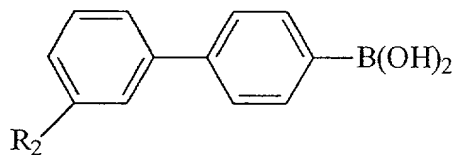
- 10 21. The method of claim 14 wherein $(R_2-A_1)_Y-B(OH)_2$ is



- 15 22. The method of claim 14 wherein $(R_2-A_1)_Y-B(OH)_2$ is

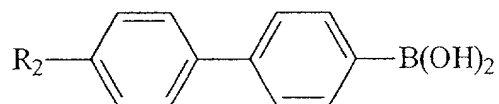


- 20 23. The method of claim 15 wherein $(R_2-A_1)_Y-B(OH)_2$ is

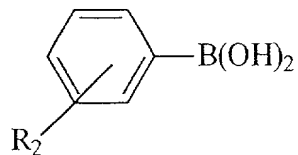


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24. The method of claim 16 wherein $(R_2-A_1)_Y-B(OH)_2$ is

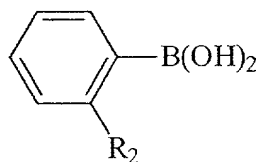


25. The method of claim 13 wherein $(R_2-A_1)_Y-B(OH)_2$ is



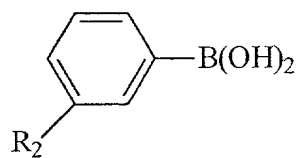
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26. The method of claim 14 wherein $(R_2-A_1)_Y-B(OH)_2$ is

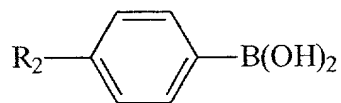


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27. The method of claim 15 wherein $(R_2-A_1)_Y-B(OH)_2$ is

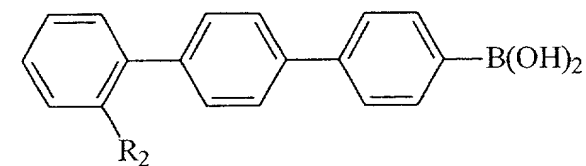
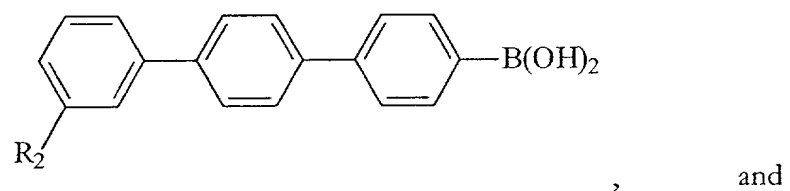
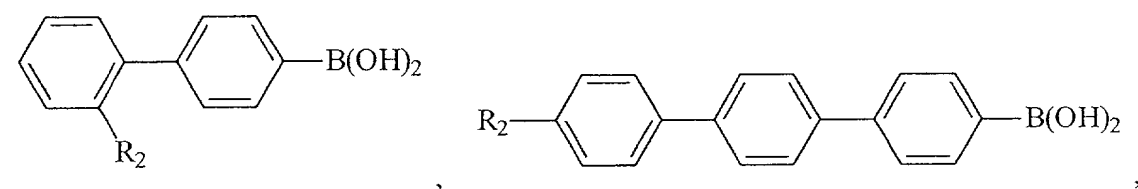
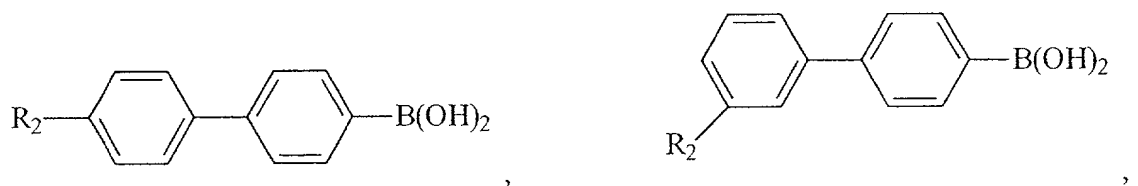
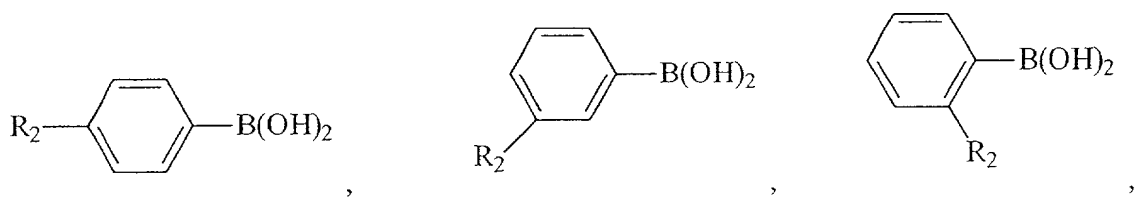


28. The method of claim 16 wherein $(R_2-A_1)_Y-B(OH)_2$ is



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5 29. The method of claim 16 wherein $R_2-(A_1)_Y-B(OH)_2$ is selected from the group consisting of



5 30. A method according to claim 24, for the preparation of 4''alkyloxy-1':4'1''-
terphenyl-4-carboxylic acid comprising the step of reacting 4-alkyloxyphenyl boronic acid
with 4'-halo-4-biphenyl carboxylic acid.

10 31. The method of claim 30 wherein the preparation further comprises the step of
treating 1-halo-4-alkyloxybenzene with magnesium to form 4-alkyloxyphenylmagnesium
halide.

15 32. The method of claim 31 wherein the preparation further comprises the step of
treating a 4-alkyloxyphenylmagnesium halide with trimethylborate to form 4-alkyloxyphenyl
boronic acid.

33. The method of claim 32 wherein the alkyl is n-pentyl.